

What is claimed is:

1. An electrical connector for connecting oppositely arranged first and second mating electrical means, comprising a support member, a first circuit having a plurality of electric contact elements arranged on one surface of said support member to contact electric contacts of said first mating electrical means, a second circuit having a plurality of electric contact elements arranged on the other surface of said support member to contact electric contacts of said second mating electrical means, and conductors connecting said first and second circuits, wherein said electric contact elements of the first and second circuits are formed in the most suitable manner to meet the shapes of the mating electric contacts, respectively.

2. The electrical connector as set forth in claim 1, wherein when said first mating electrical means is a *ball grid array* connector and said second mating electrical means is a printed circuit board, said electric contact elements of the first circuit are each provided on its surface with at least one ridge having a triangular cross-section and said electric contact elements of the second circuit are hemispherical protrusions, thereby making the surfaces of the first and second circuits different in shape.

3. The electrical connector as set forth in claim 1, wherein each of said electric contact elements of the first circuit to contact the electric contacts of said first mating electrical means is formed by plating together with the at least one ridge.

4. The electrical connector as set forth in claim 1, wherein said at least one ridge of each of the electric contact elements of the first circuit is formed to extend in a direction substantially parallel to the direction in which the electric contact of said first mating electrical means slides on the electric contact element upon being displaced in the urged direction by the electric contact when the electric contact contacts and urges the electric contact element in said urged direction.

5. The electrical connector as set forth in claim 1, wherein said support member is formed through its thickness with slits closely around said electric contact elements of the first circuit which contact said electric contacts of the first mating electrical means, respectively.

6. The electrical connector as set forth in claim 5, wherein said slits are arranged at random to be directed substantially in different directions.

7. The electrical connector as set forth in claim 1, wherein said support member is made of a non-rigid resin capable of being elastically deformed.

8. The electrical connector as set forth in claim 1, wherein said support member is made of a composite body comprising an elastomeric resin material and a metal spring.

9. The electrical connector as set forth in claim 1, wherein said support member is composed of a plurality of support element member to form spaces therebetween, thereby more facilitating the deformation of said support member as a whole.

10. The electrical connector as set forth in claim 1, wherein said support member is formed with at least one aperture parallel to or perpendicular to the surfaces of the support member provided with said first and second circuits, thereby more facilitating the deformation of said support member.

11. The electrical connector as set forth in claim 1, wherein "*continuity distance*" or an electrically connecting length through a conductor between each of said electric contact elements of said first circuit on the one surface of said support member and the corresponding electric contact element of said second circuit on the other surface of said support member is less than 5 mm.

12. An electrical connector including a first connector having a connector plate and a plurality of electric contacts provided on one surface of said connector plate, and a second connector having a board and a plurality of electric contact elements provided on conductors arranged on said board, said board formed with slits around said conductors to provide flexibility to parts of said conductors surrounded by said slits, wherein said slits are arranged at random to be directed substantially in different directions.